

JORDAN TIMES

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AMMAN, WEDNESDAY JANUARY 17, 1979 - SAFAR 18, 1399

Sadr supporters hijack MEA plane

BEIRUT, Jan. 16 (R)—A Lebanese Middle East Airlines (MEA) airliner hijacked on a flight to Amman with 73 passengers was refused permission to land in Cyprus tonight and returned to Beirut for refuelling. The government-controlled Lebanese Television identified the hijackers as supporters of Musa Sadr, spiritual leader of Lebanon's Shi'ite Moslems, who disappeared last August. He was head of the Supreme Muslim Shi'ite Council. Airport sources said the hijackers told Beirut Airport authorities they only wanted fuel and would not negotiate. Lebanese authorities were trying to reach a leading Shi'ite figure, Sheikh Mohammed Mehdi Shamseddin, to negotiate with the hijackers, the sources said.

Price: Jordan 50 fils; Syria 50 piastres; Lebanon 75 piastres; Saudi Arabia 1 riyal; UAE 1 dirham; Great Britain 25 pence

Earthquake strikes North Iran

IRAN, Jan. 16 (R)—A powerful earthquake struck the northwestern province of Gilan today but there were no reports of casualties or damage, the official radio said. The quake shook several towns and surrounding villages in northern areas of the province where a massive tremor last September killed 15,000 people and destroyed the town of Tabas. Today, the radio reported that a mild earthquake unhinged floors of a mosque and about 20 houses in the southeast province of Chaharmahal.

King ends 1-day visit to Syria

IAN, Jan. 16 (Agencies)—His Majesty King Hussein and the accompanying delegation returned home this evening after a one-day visit to Syria. The King was accompanied on his visit by Prime Minister Bishara Marwan, Chief of the Royal Court Sharif Abdul Hamid al-Zaidi and Sharif Zaid Ibn Shaker, Commander-in-Chief of the Syrian Forces. His Majesty was seen off at Damascus International Airport by Syrian officials. The King and President Assad held two lengthy meetings lasting throughout the day. The first was attended by members of the Syrian delegation as well as the Jordanian Ambassador to Damascus. The second meeting was held in the presence of the Syrian President and the Jordanian King. The King and President Assad held two lengthy meetings lasting throughout the day. The first was attended by members of the Syrian delegation as well as the Jordanian Ambassador to Damascus. The second meeting was held in the presence of the Syrian President and the Jordanian King.

UN begins talks to close ranks, assist Camp David

ASCUS, Jan. 16 (R)—The United Nations Conference on the Middle East, which opened today in Geneva, is expected to begin talks on the Middle East peace process. The conference is being held at the request of the Security Council. The conference is expected to discuss the Middle East peace process and the role of the United Nations. The conference is expected to discuss the Middle East peace process and the role of the United Nations. The conference is expected to discuss the Middle East peace process and the role of the United Nations.

Commandos repulse aid in S. Lebanon

TEL AVIV, Jan. 16 (R)—Israeli commandos repulsed an attempt by Lebanese forces to land in southern Lebanon today, a spokesman said. The commandos were alerted to the attempt by Lebanese forces to land in southern Lebanon. The commandos were alerted to the attempt by Lebanese forces to land in southern Lebanon. The commandos were alerted to the attempt by Lebanese forces to land in southern Lebanon.

UNIFIL troop pull-out raises fears of renewed fighting in S. Lebanon

UT, Jan. 16 (R)—An announcement that French troops would be withdrawn from the UN Truce Supervision Force (UNIFIL) in southern Lebanon has raised fears of renewed fighting in the area. The UNIFIL mandate expires on Friday. The UNIFIL mandate expires on Friday. The UNIFIL mandate expires on Friday. The UNIFIL mandate expires on Friday. The UNIFIL mandate expires on Friday.

In last-ditch attempt to save throne Shah leaves 'for a rest'

TEHRAN, Jan. 16 (R)—The Shah of Iran, leaving his country in a last-ditch attempt to save his throne, took off for Egypt today at the controls of a royal aircraft. The Shah made no statement at the airport. His departure for Egypt set off a wave of jubilation in Tehran. Crowds danced and sang in the streets while drivers blared their horns and flashed their headlights. When they heard over the radio that the 59-year-old monarch had left at 1.08 p.m. (09:38 GMT) "I am feeling tired and need a rest," the Shah said before taking off with Empress Farah for a few days in the southern Egyptian town of Aswan where President Anwar Sadat was waiting to welcome him. The Shah last visited Egypt a year ago when he had talks on the Middle East with Mr. Sadat, also in Aswan. Iran has provided Egypt with about one billion dollars in loans and other credit facilities following the 1973 Arab-Israeli war, and at one stage saved Egypt from an oil crisis by providing 650,000 tonnes of oil in December 1974. Egyptian officials declined to specify the nature of the Shah's visit and referred reporters to yesterday's statement on the visit. This said the visit would confirm the appreciation of the Egyptian people towards the Shah for his support of Egypt in the past, including Mr. Sadat's peace initiative. President Sadat has temporarily moved from his residence in Aswan to the hotel where the Shah is staying and later the two men held private talks details of which were not made available. Later the Shah and Empress Farah were the guests of Mr. Sadat at a dinner in the hotel. The fervour of celebration in Tehran brought a swift warning from martial law authorities. They threatened tough measures against anyone who exploited the situation or attacked government property. The Shah was reported to be carrying a small casket of Iranian soil when he left the country. Within minutes of the radio announcement that he had gone, troops enforcing martial law pulled back into side alleys to give the demonstrators a free hand. Some soldiers allowed youths to climb on their vehicles with red carnations and portraits of the Shah's exiled foe, Ayatollah Khomeini. But at least one clash was reported near the Royal Palace in North Tehran, with two demonstrators hit by military bullets. Cars, buses and trucks converged on the city centre, joining in the cacophony of horn-hooting. People hung out of car windows or sat on top of vehicles displaying victory signs. Students paraded past Tehran University chanting: "We got rid of the king. Now it will be America next." Iran now enters a period of fresh political uncertainty, during which the Shah's opponents are expected to press for the creation of an Islamic republic. All eyes were on Paris where the leader of the Islamic Republic Movement, exiled Ayatollah Ruhollah Khomeini, has masterminded the anti-Shah strikes and demonstrations which have paralysed Iran's normal life. In a communique issued from his exile home after the Shah's departure, the 78-year-old Moslem leader announced that he would "very soon" set up a provisional government. He has formed an Islamic revolutionary council to prepare for an end to the monarchy and the establishment of a republic. The Ayatollah was expected to fly home to a hero's welcome by millions of fervent supporters in the next few days. Street protests against the Shah were likely to intensify with the aim of forcing him to step down completely from the throne he has occupied for 37 years. Members of his palace staff and family retainers were in tears as the Shah bade them farewell before flying by helicopter to Mehrabad airport. "Don't worry," he told them. "I'm just going for a rest." He left only an hour after the lower house of parliament passed a confidence vote in the government of Dr. Shapur Bakhtiar, on whom the Shah is pinning his hopes for a moderate political solution which would ultimately save his throne. As a condition of taking office Dr. Bakhtiar had already persuaded the Shah that, after two decades of one-man rule, he must now reign as a constitutional monarch. In a brief departure statement, the ruler with the title of Shahanshah Aryamehr (King of Kings, Light of the Aryans) said he needed a holiday. Asked how long he would stay abroad, he said: "It depends on the state of my health. I cannot specify the time." The monarch may visit his regular doctor in Vienna or go skiing in Switzerland after leaving Egypt and before going to the United States, where he is expected to stay in the royal family's estate near Los Angeles. The Shah said he hoped that the new government "will be able to make up for the past and also be able to lay the foundations for the future. To achieve this we will need, for a period, cooperation and patriotism in its highest sense," he said. "Our economy must start again and people must restart their lives and we must prepare a better plan for the future." But the Shah said he would continue to fulfil his duties "on the basis of patriotism." Empress Farah said she was sure Iran would remain independent and unified. The royal couple's four children are already in the U.S. and every other member of the immediate imperial family is also abroad. The two youngest children, Prince Ali Reza and Princess Leila, left for the U.S. yesterday with the Empress's mother. Western diplomats believe the Shah must stay out of the country for at least a month—and maybe much longer—if his supporters are to have a chance of resisting the tidal wave of opposition emotion in the streets. But they also believe the chances of a moderate solution are slender, especially if Ayatollah Khomeini returns and takes advantage of the momentum generated by the Shah's departure. Civil strife, with possible military intervention, is also on the cards. But the man who will stand in for the absent Shah as Supreme Commander of the Armed Forces, Gen. Abbas Qarabaghi, has ruled out the possibility of a military coup. "Neither the armed forces nor the people would survive a confrontation after His Majesty departs," he said yesterday. Opposition politicians, most of whom have already condemned Dr. Bakhtiar for trying to preserve the Shah's throne, kept up their assault. "The fundamental demand of the people is for a complete purge of the establishment and for transfer of authority to them," said Karim Sanjabi, head of the opposition National Front Party. He said the Shah's departure could be a preparatory step towards this transition. One of his colleagues, Dariush Forouhar, flew today to Paris to discuss the political future with Ayatollah Khomeini. Informal sources said he had been appointed a member of the Ayatollah's Islamic Revolutionary Council. A nine-man regency council of elder statesmen, became Iran's temporary head of state as soon as the monarch flew out. With Dr. Bakhtiar's government constitutionally approved after today's confidence vote, the new cabinet and the regency council are the pillars on which any moderate solution depends—along with the army—to maintain law and order in the streets. Dr. Bakhtiar, a 63-year-old former opposition leader, won the parliamentary confidence vote by 149 votes to 43 with 13 abstentions, a definite victory, but the "no" vote was the biggest against any Iranian government in recent history.

TEL AVIV, Jan. 16 (R)—U.S. Special Envoy Alfred Atherton arrived here today in a renewed effort to revive the stalled Middle East peace talks between Israel and Egypt. Mr. Atherton, who made a similar attempt unsuccessfully last month, told reporters that his visit was aimed at "trying to resolve issues related to the proposed peace treaty not yet agreed upon and to pave the way for a continuation of the negotiations." Asked whether he had brought any new American proposals, he said he could not go into any details. In reply to another question, Mr. Atherton said that a summit meeting of Egyptian President Anwar Sadat, Prime Minister Menachem Begin, as well as President Jimmy Carter, was "not yet on our agenda." Accompanying Mr. Atherton was State Department Legal Adviser Herbert Hansell. Mr. Atherton's talks with the Israelis were expected to begin tomorrow although he was due to meet informally with some officials tonight. He was expected to travel on to Cairo at the end of the week. The status quo, which means the loss of South Lebanon. Mr. Assad has received tacit support from Lebanese President Elias Sarkis. In a recent speech to foreign diplomats here, Mr. Sarkis said that aggression and provocation against UNIFIL "require that this force be strengthened through the adoption of new and effective means to enable it to impose its authority and accomplish its mission." Senior U.N. officials, including Gen. Erskine, are firmly opposed to the use of force to resolve what they regard as a political rather than a military problem. The UNIFIL Commander conceded that no substantial progress had been made during the current mandate, but he said his men could not be blamed. "Our depression and frustration is due to factors beyond our control," he said. "I think very much depends on effective pressure from the Security Council on the parties involved." He told reporters last week that failure to do so would "consecrate



Shahanshah Mohammad Reza Pahlavi and Empress Farah are seen at Tehran's Mehrabad airport Tuesday on their way to the plane which took them out of Iran to Aswan, Egypt, at the start of a trip that eventually takes them to the U.S. (AP wirephoto)

Nation-wide strikes bite deeper as Callaghan tries to handle crisis

LONDON, Jan. 16 (R)—Millions struggled to work through dense traffic jams today as a nation-wide rail shutdown inflicted new misery on strike-plagued Britain. Many turned up hours late at work and hundreds of thousands were estimated to have stayed at home because of a 24-hour strike by 28,000 train drivers. The stoppage played havoc with the nation's supply lines, which have already been severely disrupted by striking lorry drivers pushing for a pay increase more than four times over the government limit. Prime Minister James Callaghan — attacked by the media for complacency — was defending his handling of the crisis in a parliamentary debate. Some commuters set out before dawn in order to beat today's rush to work. But the Automobile Association said roads into London were very busy by 0600 local and that traffic was 50 per cent heavier than usual. The strike was called by members of the Associated Society of Locomotive Engineers and Firemen (ASLEF) who are involved in complex negotiations with British Rail management over "responsibility bonuses" and productivity agreements. ASLEF, which is demanding an immediate seven-pounds (14-dollar) a week bonus, is also at odds with the main rail union, the more moderate National Union of Railwaymen (NUR). In the lorry drivers' strike, there were reports of violence on the picket lines as truckers continued to stop and question lorries still trying to deliver supplies. Yesterday two pickets received slight gunshot wounds in South Wales. A spokesman for the Confederation of British Industry (CBI) told Reuters today that bricks were hurled through lorry windows in Glasgow. The CBI, the organisation of British employers, today said all indications were that one million men would be laid off by the end of this week. The truckers are pressing for a 22 per cent pay increase—way over Mr. Callaghan's five per cent pay limit—which would take their basic weekly wage to 65 pounds. They also want a 35-hour working week. As the strike bites deeper, Britain's newspapers have grown thinner because newsprint supplies are drying up. Numerous side-effects have been reported. In some counties schools have stopped serving lunches, steel production is expected to be 25 per cent down this week, and some supermarkets are rationing customers.

Fighting rages in Gulf of Thailand

BANGKOK, Jan. 16 (R)—Fighting raged this afternoon in the Gulf of Thailand as Vietnamese-led forces battled units loyal to the Pol Pot government for control of Koh Kong island off the west Kampuchean (Cambodian) coast. Thai navy sources said. They said 22 boats were believed to be involved in the fighting—thought to be part of a naval, air and amphibious operation by Vietnamese-backed forces to seal off Kampuchea's only stretch of coastline. The fighting on Koh Kong, about 25 km long and just off the coast of a province bearing the same name, was reported amid indications that forces of the new Hanoi-backed administration in Phnom Penh were meeting stiff resistance in their attempt to extend their control elsewhere in Kampuchea. At the eastern Thai border town of Aranyaprathet, opposite the northwestern Kampuchean province of Battambang, intermittent artillery and mortar fire was heard from inside Kampuchea throughout last night and briefly this morning. At the United Nations, Kampuchea and its ally, China, were today considering bringing their dispute with Vietnam before the General Assembly.

JORDAN TIMES

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Italian delegation visits Jordan to boost trade

By Lee S. Tesdell
Special to the Jordan Times

AMMAN, Jan. 16—Italian trade with Arab countries is expanding, and Jordan is in very good position in the Arab World for trade with Italy. Dr. Antonio Desti, President of the Italian Chamber of Commerce for the Middle and Near East, told the Jordan Times today.

Dr. Desti, who is with an Italian delegation currently in Jordan to encourage trade, said that Italian trade with Saudi Arabia increased by 180 per cent, with Kuwait by 120 per cent and with Libya by 100 per cent in 1978.

During the talks which the delegation held with various government offices here, closer bilateral cooperation was explored in the fields of commerce, education, art and culture. In May or June concrete results will be seen when an Italian fashion exhibit will open in Amman at the Hussein Youth City.

At present, said a delegation spokesman, there are only a few joint ventures, but it is hoped that more Italian-Jordanian projects will be undertaken. This is one purpose of the delegation's visit, he said, and visits to Jordan by Italian businessmen will soon follow to pursue this topic further.

Italy presently imports Jordanian phosphate and exports consumer goods, textiles and fur-



Members of the Italian delegation speak to our reporter at the Jordan Hotel Intercontinental Tuesday.

Italy's main exports to the Arab countries are construction and petroleum industry related items. For example, Fiat, the construction equipment manufacturer sells tractors and other heavy machinery. Italconsult, on the other hand, provides consulting and engineering for large scale construction projects.

The delegation numbers 15 and includes the president, Dr. Antonio Desti; vice-president Renato Santoro, Mr. Giuseppe Santoro; Donna Ester Santoro and Donna Contessa Cristiana Fiorentini.

While in Jordan during their nine-day stay, they have met with Marchese Fabrizio Rossi Longhi, the Italian Ambassador to Jordan, and were received at various government offices.

Minister of Tourism and Antiquities Ghaleb Barakat, Minister of Industry and Commerce Nijmeeddin Dajani, Under-secretary of Information Peter Salah, Director General of the Department of Culture and Arts Muhanna Durra, Mr. Haitham Goussous of the Prime Ministry, and Mr. Sa'edaddin Juma' were each presented with an "Exporter's Award" by the delegation. This award was presented to those who had played a role in furthering Italian-Jordanian trade.

Following the visit by His Majesty King Hussein to Italy recently and the visit of Italian Prime Minister, Giulio Andreotti to Jordan, the delegation brought greetings, said Dr. Desti, to the King and His Highness Crown Prince Hassan, in the spirit of further cooperation.

ECONOSCOPE

Cancer can spread

By Jawad Ahmad

I was reading the Jordan Times the other day when I came across a piece of news on the Hollywood actor John Wayne. This man has true grit and guts off screen as well as on, even more so than the late war hero Audie Murphy. Mr. Wayne has already had his stomach and gallbladder removed, one lung has been partially removed and he has already undergone open-heart surgery. At 71, he is still alive and doing well—depending on what you mean by well.

Cancer, which is one of Mr. Wayne's ailments, seems to be the arch disease of the century. Despite all claims to finding remedies or discovering the causes, cancer is still as enigmatic as ever.

According to the layman's definition in Webster's dictionary: "Cancer is a malignant new growth anywhere in the body of a person or animal; cancers tend to spread and ulcerate."

Societies can be cancerous as well. They can develop certain phenomena which spread by force of continuity until they bring that society to the verge of disaster.

Such phenomena can be economic, or rather socio-economic. Such cancerous

symptoms are: persistent and distortive tension, extreme social inequity, and mad consumption.

It was once thought that such symptoms only appear in societies which can afford them, or to phrase it differently, that the rich-specific. This is not thought to be anymore. Developed as well as developing countries can suffer from same cancer if the causes are present to rant such malicious growth.

A brother of mine, who is a chemist developed this cancer-prone society in an article he wrote. His prime target pollution. According to him, cancerous societies develop this disease when natural resources are eroded by excessive pollution-producing activities.

It is unfortunate that our consumption methods as well as our production seem to reinforce pollution. Everyday hear or read in the papers about an explosion of an oil tanker killing millions of fish, the destruction of the atmospheric layer by the use of billions of aerosol products, the advancement of the desert, diminishing of cultivable land.

Where is this leading us to? I really have the answer. But if John Wayne came up with more than cancer, why can't

A fresh start

No one in the Middle East region can ignore the implications of the formation of a new government in Iran, which has now culminated in the departure of the Shah for an "extended holiday" abroad.

Whether or not the Shah ever returns, he leaves behind a drastically changed Iran. The people have spoken, and the character of the new government of Dr. Shahpour Bakhtiar indicates that the will of the people will continue to be taken into account as the country evolves new policies and reappraises its position in the region, and in the world.

As far as the Middle East is concerned, the early signs are encouraging. Dr. Bakhtiar has stated flatly that Iran will no longer supply oil to Israel. He has aligned Iran forcefully with the Arab position in the Middle East conflict and has spoken out in support of Palestinian rights. Dr. Bakhtiar himself was once a student in Beirut, and can be expected to pursue close ties with all his Arab neighbours: an easing of longstanding tensions between Iran and Iraq, and the dropping of all Iranian imperial ambitions in the Gulf can be expected to be two early results of this pursuit.

Whatever government rules in Tehran, Iran continues to be a giant among the world's oil producers and a country with a key strategic position, and extensive influence, in this region. Its new government will have to shape its economic and foreign policy priorities accordingly.

Still, it is with domestic concerns that the Bakhtiar government, or whatever follows it, will now most certainly preoccupy itself, and it is the people of Iran themselves, and not necessarily their neighbours, who will most feel the effects of change.

The violence and disruption of the past few months have left deep scars on the body and soul of the nation. Many of the bitterest grievances, such as the position of some of the country's nationalities, have only just been aired, and remain to be addressed. It is a society in transition, and many issues clamour for attention.

The evolution of Iran's crisis has been as unique as the problems which its still strongly traditional society has encountered in its remarkable rush to modernisation. The new government must come up with solutions that are likewise uniquely fitted to their country's heritage, to its position in the region and the world, and to the high expectations which the recent events have engendered among its 33 million people.

ARAB PRESS COMMENTARY

AL RA'I Tuesday hopes for and expects good news from His Majesty King Hussein's visit to Damascus today "to determine a unified position for facing Zionist threats against the confrontation states and beyond."

The newspaper says the King's visit assumes special significance in that it comes when political and economic changes have affected elements of the Middle East crisis particularly as the Baghdad summit resolutions were being implemented. The monarch's visit also comes when Syria and Iraq are beginning their full unification process and Jordan's role becomes vital and necessary, particularly as the coordination and integration process between Jordan and Syria has gone a long way on the road to total integration.

Furthermore, Al Ra'i says, the King's visit comes on the second day of the Palestine National Council's meeting in the Syrian capital which ought to reach a unified stand "at a level with challenges facing the Palestinian people inside and outside the occupied territory."

AL DUSTOUR notes that two conspicuous things took place on the eve of the visit of U.S. special envoy Alfred Atherton and State Department legal adviser Herbert Hansell to Israel and Cairo to try to overcome difficulties that so far precluded signing of the Egyptian-Israeli peace treaty and to revive negotiations between the two sides at ministerial level. The first thing was a decision by the Israeli authorities to build three para-military settlements in the West Bank and Gaza Strip in addition to confiscation of 1,500 hectares of the Abu Dis village near Jerusalem. Similar measures were taken by Israel just before the arrival of the U.S. Secretary of State Cyrus Vance in Israel more than a month ago on his abortive attempt to overcome obstacles that hindered signing of the peace treaty. The second thing, the newspaper adds, was Cairo reports indicating that the three points of difference between Cairo and Tel Aviv which Mr. Atherton was coming to solve, have now been reduced to two points only: the difference over security arrangements in Sinai and the one concerning the priority of the Egyptian-Israeli peace treaty over Egypt's treaty obligations towards other Arab states. As to the more important difference over the question of linkage between the peace treaty and a timetable for Palestinian self-rule for the West Bank and Gaza Strip, it has been relegated to be discussed when and if negotiations were resumed.

Al Dustour considers these developments as a further concession on the part of Egypt and a further intractability on the part of Israel.

WHAT'S GOING ON

Painting Exhibit

The exhibition of paintings by Egyptian artist Ahmad Chiha is on display at the Art Gallery of the Ministry of Culture and Youth. Open from 9:00 a.m. to 2:00 p.m. and 4:00 to 7:00 p.m. daily.

International team restores 6,000-year-old wall painting

Text by Breda Finegan
and Susan Balderstone

Photos by
Susan Balderstone

Special to the Jordan Times

AMMAN — Approximately four square metres of the second-oldest known painting in the world is lying in the basement of the German Evangelical School of Archaeology, waiting to be mounted and moved to Jordan's Archaeological Museum at the Amman Citadel, where it will be one of the prize exhibits, and contribute enormously to the knowledge of ritual and religious practices in the Chalcolithic period (4,500 - 3,300 B.C.).

Dr. Adnan Hadidi, the Director of the Department of Antiquities, is now applying to UNESCO for a return visit by Mr. Paul Schwartzbaum, the man who led the technical consolidation work on the frescoes in November, to complete the mounting work. Dr. Hadidi hopes Mr. Schwartzbaum of the International Centre for Conservation in Rome will return sometime next month.

The recovery of the 6,000 year-old frescoes, which represent a religious procession, was a dramatic event which took place in 1977 at the end of four seasons of excavation work at Teleilat Ghassul in the Jordan Valley by Dr. Basil Hennessy and a team from the University of Sydney.

The Australian team, working with trowels, kept turning up bits of painted plaster at the site. Had they been using picks, Dr. Hennessy told the Jordan Times, whole sections of valuable painting could have been ruined.

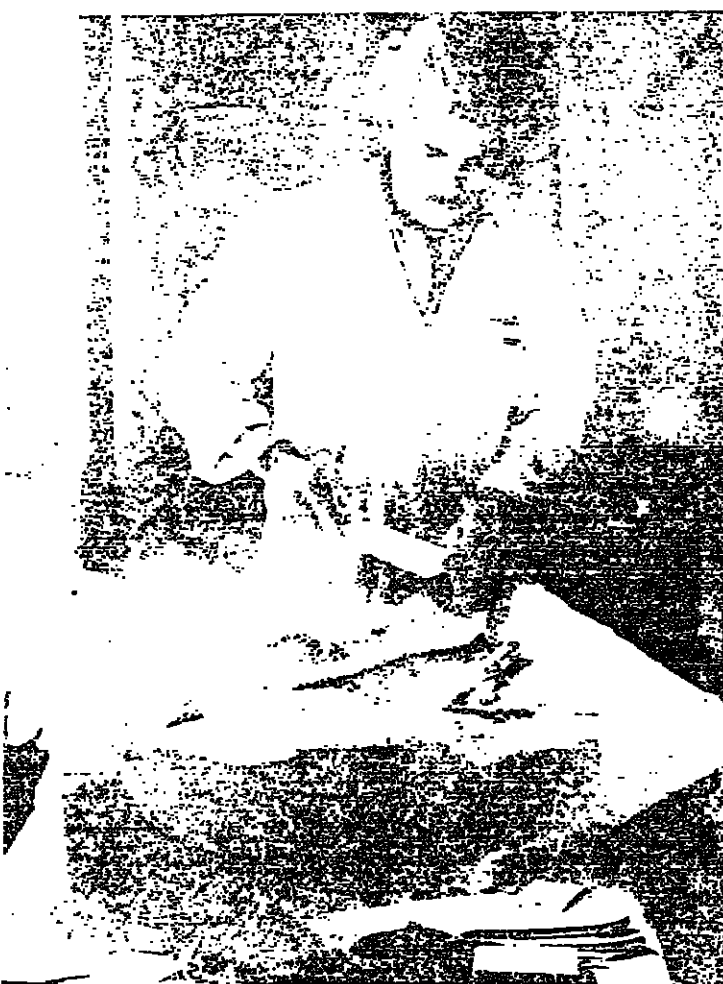
As it was the little pieces of painted plaster indicated the presence of a whole wall covered with painting. The area containing the frescoes — which were lying face down due to the collapse of the wall in an earthquake — was set aside and application was made to UNESCO for help in salvaging them. However, UNESCO did not advise their retrieval saving the paintings were far too fragile.

According to UNESCO, the job seemed altogether too difficult so it was left to Dr. Hennessy's team to do what they could alone. Fortunately Miss Anne Searight of the British Museum was on hand at the dig, and she and Dr. Hennessy set about lifting the fragile frescoes.

First they dug around the frescoes until they were perched on a kind of low mound. Then, using a tungsten saw, they sliced off pieces of the wall in blocks, the backs of which they covered with plaster of paris to prevent further fragmentation.

Carbon-14 dating has put the age of the frescoes at around 4,500 B.C.

The only known paintings in the



Mr. Paul Schwartzbaum removes the initial plaster of Paris backing from a piece of wall painting.

world to be dated earlier than this are frescoes found at Catal Huyuk in Turkey during the 1960's.

Teleilat Ghassul was in fact the site that produced the famous Star fresco back in the 1930's, during the Mellon-Koeppel Excavations under the direction of the Pontifical Biblical Institute.

The Star fresco, Dr. Hennessy said, "was well lifted, but there were not the means of preservation in those days to make it worth while."

Such is also the case with the remaining frescoes at Teleilat Ghassul. "There must be hundreds more frescoes at Ghassul," Dr. Hennessy says. "But it would be a waste of fantastic material to try to recover them now. It is best left until retrieval methods are better than at the moment."

The area in which the frescoes were found was undoubtedly a major cult area. Dr. Hennessy said. In fact the fresco at the German school now is the oldest representation of a religious procession in existence.

It shows a human procession of three very ornately dressed full length figures. One, the tallest, probably representing the high priest, is carrying a curved sceptre. They are approaching an ornate series of architectural steps.

The fresco is executed in brilliant black, white, red and yellow. About thirty-five pieces of painting in all were lifted during

November and December 1977 and taken to the British School of Archaeology where they remained for four months.

After the frescoes were successfully lifted, a team from UNESCO came to Jordan in March the following year to examine them and to study the report on their retrieval by Anne Searight. The team was led by Mr. Giorgio Tormea and included Prof. Plenderleth a conservation expert and Dr. Bernard Feilden, Director of the UNESCO School of Conservation.

They sent recommendations to UNESCO as to the best method of consolidating the frescoes, and on Nov. 7, 1978 another team of four led by Mr. Paul Schwartzbaum arrived in Amman to carry out three weeks of highly delicate work on the crumbling wall paintings.

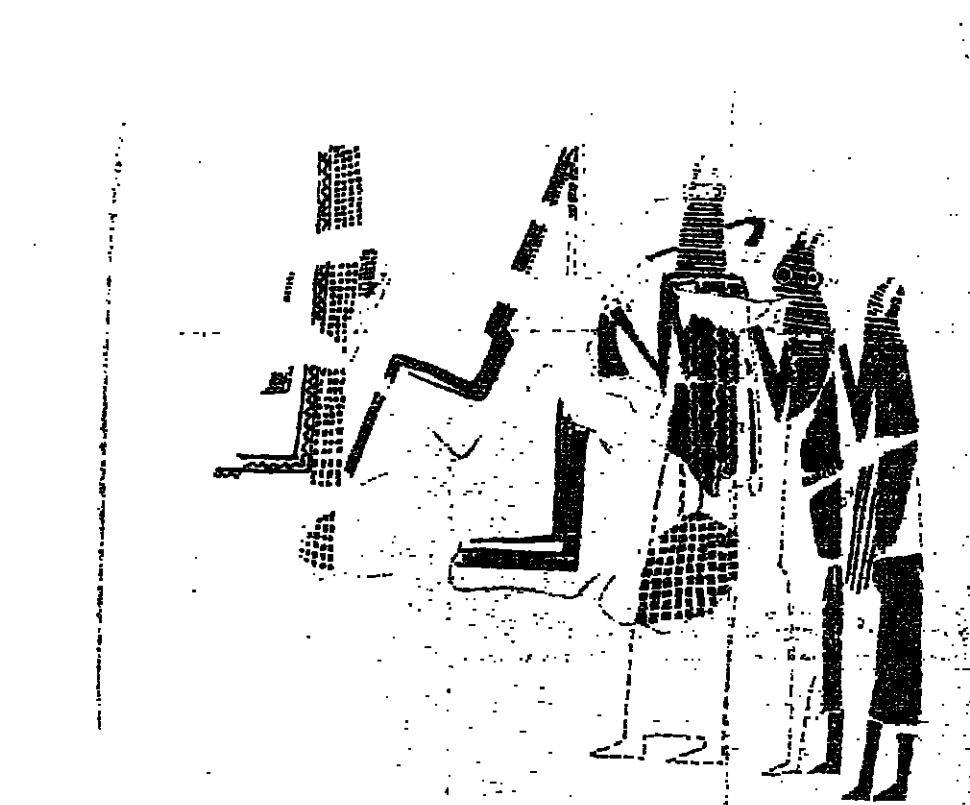
Mr. Schwartzbaum described to the Jordan Times the process by which the individual sections were consolidated.

First the paint surface was coated with a synthetic resin to fix the colours. Mr. Schwartzbaum explained that as all the pigments are mineral, the colours will not fade. However, they had to be protected from moisture.

A sheet of tissue paper and tayer of gauze were then applied to the surface with a starch paste. This was covered with a sheet of aluminium foil and a plaster cast was made to fit over the face exactly and support it when the piece is turned over.

The next stage involved the removal of the original plaster of Paris backing and cutting down the mud base to a uniform thickness. A second plaster cast was then made over the back of the piece, with aluminium foil again, inserted between it and the plaster to prevent sticking.

The piece was again reversed and the front plaster cast removed. The gauze and paper were then carefully cleaned off the paint surface and the piece was ready for immersion in the special consolidant, ethyl silicate. This solidified the mud backing of the



A reconstruction drawing of the wall painting.



Miss Anne Searight cleans the paper and gauze off the paint surface prior to immersion of the consolidant.

Joint Jordanian-Syrian excavations at Busi

AMMAN, Jan. 16 (JNA)—Director of the Syrian department of museums and antiquities Dr. Afif Al Buhusi arrived here today for a two-day visit to Jordan.

He will hold talks with the Director General of the Department of Antiquities Dr. Adnan Al

Hadidi on ways of co-ordinating the two countries' efforts in the field of archaeological excavations in the Syrian town of Busi.

New archaeological survey to begin

AMMAN, Jan. 16 (JNA)—The Department of Antiquities will start an archaeological survey of the Al Dhira' Karak governorate. The survey, to be carried out in cooperation with the British Institute for Archaeology and History, will involve the opening of the Al Safi-Aqaba road. The department will graph and record archaeological finds which will later special charts indicating their locations.

Local club plans an international children's forest, song festival



Two boys plant trees at Yajouz forest...



While another small boy looks for a place to plant his tree.

Although the songs are in Arabic, I think foreign children will enjoy the festival, they will enjoy the music, the scenery, the movements."

Booklets and cassettes will be sold at the door of the Palace of Culture, to encourage the children to learn the songs.

The club will also celebrate the

planting of an International Children's Forest on Friday, under the patronage of His Highness Prince Hassan and her Highness Princess Sarvath.

Mrs. Malatijlian said: "Three years ago, we thought of planting a children's forest to make the children feel they own something. It also develops the feeling of affiliation to the land and to the country."

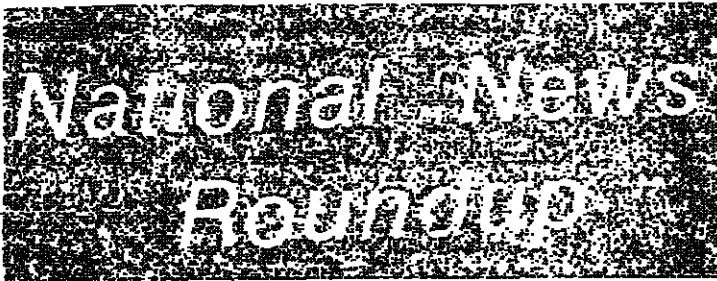
"For this purpose we planted a forest at Zabud near Naour, and another one, last year at Yajouz. On the occasion of International Year of the Child, we decided to make the Yajouz forest an International Forest for children."

"We contacted foreign embassies to see if they would like to participate by sending us trees from their countries. Some 11 countries met our request; these are Syria, Lebanon, Pakistan, the Republic of Korea, Britain, the

United States, USSR, France, Italy, Greece and the Federal Republic of Germany."

The forest will be irrigated by reservoirs and water pipes. "Sometimes children will irrigate it by themselves," Mr. Farouk Zoubi, member of the board of the Friends of the Children's Club said. "This forest symbolizes friendship among the children of the World, it also serves as a park, and teaches children about the different kinds of trees planted in other countries of the world," he added.

"The official opening of the Friends of the Children's Club Centre, is the next major event organised by the Club," said Mr. Haidham Ghousous, another member of the board of the Friends of the Children's Club. A fifth book exhibition, a major play, and several other activities will be held by the club in the near future," he said.



Royal decree approves charity law

AMMAN, Jan. 16 (J.T.)—A royal decree issued here today approved a law concerning the Queen Alia Jordan Welfare Fund. According to the law, the Amman-based fund will be a non-governmental national corporation with an independent administrative and financial status. The fund will help in promoting the social and voluntary work in Jordan and it will have the right to affiliate with any other Arab or foreign body with similar aims upon a decision by its board of trustees.

Labour legislation symposium announced

AMMAN, Jan. 16 (JNA)—The Ministry of Labour, in cooperation with the Arab Labour Organisation, will hold a symposium on Jordanian labour legislation on Feb. 20. Minister of Labour Isam Al Ajlouni said the aim of the symposium is the exchange views among the three parties concerned, the state, labour and employers, on the new labour law and conduct a comparative study on local and Arab labour legislation. The symposium is expected to last five days.

Land owners to get compensation

AMMAN, Jan. 16 (JNA)—The government plans to start paying compensation to land owners who lost their land because of government development programmes, it was announced here yesterday. Priority will be given to those who were affected first.

Pan-Arab medical committee to meet in Amman

AMMAN, Jan. 16 (JNA)—The second session of the Higher Committee for Arab Medical Affairs will be held here on Saturday. The three-day meeting will discuss drawing up a unified pan-Arab medical policy, working on an Arab medical directory, and establishment of a central research laboratory. Representatives from all Arab countries are expected to attend.

Amman Stock Exchange Report

NAME OF COMPANY	Par Value	Volume Traded	Last Buying Offer	Last Selling Offer	Closing Price
Jordan Petroleum Co.	JD 5,000	9,141	—	—	6.600
Jordan Cement Factories	JD 10,000	5,377	14.150	14.200	14.150
Arab Pharmaceutical Co.	JD 5,000	422	—	16.900	16.900
Housing Bank	JD 1,000	201	1.150	—	1.150
Jordan-Gulf Bank	JD 1,000	1,054	—	1.070	1.050
Jordan Electricity Co.	JD 1,000	337	1.350	1.360	1.350
Jordan Ceramic Industries	JD 1,000	276	0.920	0.930	0.920
Jordan Tobacco and Cigarette Co.	JD 5,000	3,200	—	—	8.000
Paper and Cardboard Factories	JD 1,000	47	0.850	0.970	0.950
Jordan Tanning Co.	JD 5,000	275	—	—	8.600
Jordan Lime and Silicate Brick Industries Co.	JD 5,000	1,202	4.500	4.550	4.500
Petra Bank Co.	JD 10,000	1,705	—	11.750	11.350
Confectionary and Chocolate Factory Co.	JD 1,000	216	—	—	1.000
Arab International Hotels Co.	JD 1,000	442	0.740	0.770	0.740
Jordan Worst Mills Co.	JD 1,000	604	1.570	1.650	1.570

Total volume traded, Tuesday, Jan. 16: JD 24,499
Total number of shares traded: 5,617

NAME OF COMPANY	Par Value	Volume Traded	Number traded	Year of maturity	Selling price
Government Development Bonds	JD 5,000	1,501	300	1983	5.005
	JD 5,000	3,303	660	1982	5.005

Total volume traded: JD 4,804

First tax exempt bond issue is bought up quickly

By Rami G. Khouri
Special to the Jordan Times

AMMAN, Jan. 16—The first bond issue floated in Jordan to benefit from the new tax exemption on interest has been bought up quickly by commercial banks and other financial institutions here, according to sources at both the Free Zones Corporation—for whom the money is being raised—and the Central Bank of Jordan, agents for the bonds.

The JD 4 million issue is for eight years at an interest rate of 6½ per cent, and enjoys a government guarantee and a commitment by the Central Bank to buy back the bonds at par at any time before maturity.

The bonds were issued for the Free Zones Corporation to help finance the first stage of what will eventually be a JD 30 million scheme to develop free zones throughout the country, geared primarily to export-oriented industries.

Free Zones Corporation Director General Ali Hassan told the Jordan Times here today that the money from these bonds would finance the Aqaba and Zarqa free zones, now under construction. He estimated that some JD 15 million would be required to finance free zones schemes over the next ten years, half of which may be raised through bond issues floated locally.

According to Finance Minister Mohammad Dabbas, the development of free zones in Jordan over the coming 12 years will require as much as JD 30 million in capital investments.

Besides the Aqaba and Zarqa zones, the joint Jordanian-Syrian free zone is also under construction.

Central bank bonds

Meanwhile, the head of the Central Bank's bonds department, Mr. Mohammad Jasir, told the Jordan Times in a separate interview here today that the Central Bank issued a total of JD 10 million in new development bonds last year, of which JD 2 million was to redeem previous issues.

This is significantly lower than the JD 15 million the government anticipated would be required in domestic bonds in 1978 to finance development projects, and is also below the JD 12 million in development bonds sold in the previous year, 1977.

Mr. Jasir would not say precisely how much the government planned to raise in development bonds this year, as this would depend on the revenues accruing to the Finance Ministry. But he said it would probably be about the same as last year, or in the JD 9-10 million range.

New bonds issued in the first quarter of this year will be worth about JD 3-4 million, he said, and would be issued in a two-tier manner. Some bonds would have a higher interest rate of around 8-8½ per cent but would not be redeemable before maturity at the Central Bank, to encourage their trading on the Amman stock exchange, where a secondary market in bonds is expected to develop gradually.

The other tier of bonds would have a lower interest rate of 6¼-6½ per cent, but would enjoy the Central Bank's traditional commitment to redeem them at any time before maturity at their par value.

Electricity Authority to collect TV fees

AMMAN, Jan. 16 (J.T.)—The Jordan Electricity Authority will start tomorrow to collect fees for television sets.

According to a new law approved by a royal decree issued today, the authority will collect a fee of 500 fils as part of the monthly electricity bills and will cut off the electric current in case the fee is not paid. The Finance Ministry, which used to collect an annual JD 6 as a licence fee for television sets, will refund the fee to those who do not own TV sets. The authority will in addition collect an additional 10 per cent fee for performing this service.

According to the law diplomatic missions, government departments commercial and industrial concerns, religious and philanthropic associations, hospitals, clubs and educational institutions will be exempted from paying the fees.

TODAY'S WEATHER

The weather will be partly cloudy with light and variable winds. In Aqaba Gulf winds will be northerly moderate with calm seas.

Temperatures	Overnight minimum	Daytime maximum
Amman	5	15
Aqaba	12	22
Jordan Valley	12	21
Deserts	4	17

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Queen Noor meets governors



Her Majesty Queen Noor Tuesday morning chairs a meeting of the district governors to discuss plans by local committees for International Year of the Child. To the Queen's right is Minister of Interior Suleiman Arar.

\$10m. loan agreement signed for new hotel

AMMAN, Jan. 16 (J.T.)—The Arab International Hotels Company (AIHC) is to obtain a \$10 million loan from a consortium of banks led by the Arab African Bank to help in the construction of a modern 16 story hotel in Amman, according to an agreement signed here today.

The 300-room hotel which is estimated to cost JD 9.2 million will be set up on an area of 16 dunums and will include two restaurants and seven conference

halls. It will be managed by the Marriott hotel chain. The loan agreement was signed for Jordan by Minister of Finance Mohammad Dabbas, for the AIHC by the chairman of its board of directors, president of the National Planning Council Dr. Hanna Odeh, and by the President of the Board of Directors of the Arab African Bank Ibrahim Al Ibrahim.

The Jordanian government holds shares worth JD 2.5 million in the capital of the AIHC which is put at JD 4.7 million.

Cement company sales increase by 52%

AMMAN, Jan. 16 (JNA)—Sales of the Jordan Cement Factories Company totalled 877 thousand tonnes during the last eight months of 1978 against 575 thousand tonnes for the same period in 1977. The increase amounted to 51.9 per cent, company sources said.

9 m. tonnes of Jordanian phosphates sold in 1978

AMMAN, Jan. 16 (JNA)—Jordan Phosphate Mines Company sold around nine million tonnes of phosphates in 1978, an increase of one million tonnes over the 1977 sales. This comes as a result of projects carried out by the company to increase the amount of phosphates mined.

Jordan Islamic Bank share sales total JD 6 m.

AMMAN, Jan. 16 (JNA)—The founding committee of the Jordan Islamic Bank today discussed the results of the sale of the bank's shares on the market. Seven thousand shareholders have bought shares worth JD 6,076,000, a member of the committee said.

Jordan to be represented at Union of Islamic Banks

AMMAN, Jan. 16 (JNA)—The Jordan Islamic Bank will participate in the meeting of the Union of Islamic Banks scheduled to be held in Cairo on Jan. 20 to discuss the Islamic bank's cooperation and coordination in dealing with international banks according to the Islamic law. The seven-day meeting will also discuss modern means of administration and organisation.

Ministry of Tourism considers purchase of 10 buses

AMMAN, Jan. 16 (JNA)—The Ministry of Tourism is currently studying the possibility of buying ten buses to be operated by Jordan Express Tourist Transport Company (JETT) which already runs 34 tourist buses.

Jordanian-Egyptian committee to meet

AMMAN, Jan. (JNA)—The Jordanian-Egyptian committee, formed following the signing of the economic protocol between the two countries, will hold a meeting in Cairo at the end of this month to discuss the renewing of the protocol.

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Inventors keep industry busy with new contraptions

By C.L. Boltz

A remarkable series of helium liquefiers and refrigerators is attracting the interest of scientists around the world. Made by Cryogenic Refrigerating Systems, part of BOC International, the machines represent the culmination of more than a decade of research and development.

Certain gases have been liquefied when necessary ever since the time of Michael Faraday. Very many can be liquefied by compression or refrigeration or both, but for years hydrogen and helium defied scientific effort. Kamerlingh Onnes, the Nobel prize-winning physicist from the Netherlands, succeeded in 1908 in liquefying helium, the

temperature of liquefaction being found to be in the region of -270°C .

This is done routinely by the new machines, and the operators need no special skill. Liquid helium, as the coldest known liquid, is used in many laboratories that work on cryogenics whether academically or in association with industry, as for example in research into superconductors. The new machines may be modified so that the liquid helium produced is not removed in insulated containers but is made to recirculate. In this way the machines act as refrigerators in which material and apparatus can be cooled to very low temperatures.

The liquefaction of gases is an intricate subject. However, it is easy to see that as the

temperature of a gas is directly related to the speed of the molecules or atoms, the gas will be cooled if we can slow them down by removing energy. This is done by letting the helium gas do work without taking in heat. The main ingenuity of the BOC apparatus lies in the way this is done.

The process depends on a tiny turbine developed at BOC's laboratories in London. At one end of the turbine is a vaned wheel, with the vanes so designed that the expanding helium gas makes the wheel rotate as it passes into an expansion chamber. The bearings of the turbine are helium gas, and at the other end of the turbine shaft is a braking wheel with helium circulating round it.

Industry depends more and more on the scientists who devise new processes, new materials and new machines. C.L. Boltz, former science editor of the "Financial Times", London, writes about research projects that have borne fruit commercially, and about others likely to prove their value in the longer term.

Thus the work done by the expanding gas on the turbine wheel, which ordinarily would be shown as heat, is dissipated by circulating cold helium. In this way the gas driving the turbine loses energy and is greatly cooled.

The final liquefaction -- which is not total since some gas remains -- is achieved by allowing the very cold gas to

expand through a tiny hole in a valve. The liquid is removed and stored in a Dewar flask and the remaining gas is recirculated through the system.

Research undertaken at Britain's Hydraulics Research Station 75km west of London has improved the design of a harbour to be built at Dubai on the Gulf.

The research station is every boy's delight. Scale models of coastlines occupy a total of several hectares. They are complete with sand, gravel and water, and tides can be made to rise and fall, and waves created to follow one another at any frequency. Small models of docks, breakwaters, harbour buildings, piers and so on are placed in their correct positions.

These are working models fitted with instruments so that measurements can be made systematically, and the results can be scaled up to give the figures for the full sized structure.

Investigations have been made at the station into estuaries, rivers and harbours all over the world. The Thames flood barrier, now under construction, is reproduced in a scale model. And around the world there are rivers, estuaries and harbours free of silt and breakwaters withstanding gales because of research done at the station.

The research for Dubai was commissioned by a firm of consulting engineers to predict wave conditions in and around the proposed harbour, where the coast is undeveloped. The harbour will thus be completely manmade.

There is to be an inner basin with 74 berths, connected to the Gulf by a dredged channel 22km long. Beyond the existing coastline there are to be two breakwaters enclosing the channel and an outer basin. Some 110 million m³ of earth have to be excavated.

The first step in the research was numerical and was undertaken with the aid of computer programs based on wave refraction. The initial object was to predict wave conditions near the harbour entrance during storms so that the size of the armour for the breakwaters could be specified. Secondly, it was necessary to find out how the dredged channel would affect wave conditions, and different alignments had to be predicted.

While this was being done a model was made to a scale of 1:120. This involved the construction of a dredged channel

about 40m long and breakwaters each about 20m long. Waves were generated with a paddle and wave period of 5 to 12 seconds were used. Modifications could be made to the model to see the effect on wave heights.

Changes in the original design have been made to ensure calmer waters inside the inner basin, and the eastern breakwater has been redesigned to give greater protection.

There have been many arguments for and against Concorde, the world's first supersonic civil aircraft. Now evidence is accumulating that there are advantages perhaps never thought of by the designers and the operators.

For one thing there is no jet lag, according to the chief of British Aerospace Dynamics, who has made hundreds of journeys in Concorde. Many people experience jet lag after long flights in subsonic aircraft. It is a general malaise and fatigue that lasts perhaps two days depending on the traveller's age and health. However, those who fly by Concorde to New York or Washington from Britain do not suffer jet lag because the journey time is so short.

There is another important advantage, in that it now is possible for doctors to use radioisotopes of short half life in Washington, Baltimore and important medical centres. Many isotopes have long half lives and there is no problem in transporting them from the British Radiochemical Centre, which is the source of most of the world's radioisotopes. Iodine 131, for example, has a half life of eight days.

But there are some radioisotopes that have half lives of only a few seconds, and obviously they cannot be transported anywhere. For this reason scientists at London's Hammersmith Hospital have devised ingenious "generators" of short lived isotopes. Such a generator may need some manipulation when it arrives at the point where the isotope is to be used, or it may consist of a longer life isotope that decays into the required short life isotope.

Such is the case with the gas krypton 81, which has a half life of only 13 seconds and emits gamma radiation. It has proved very useful in the diagnosis of lung trouble because it can be breathed in. A gamma camera outside the body then records a picture similar to an X ray, but at much lower radiation dosage and with better detail. Because krypton is a gas the parts of the lung reached by the patient's breath are clearly shown.

The problem is to have krypton 81 on hand, since it cannot be stored. So the Hammersmith researchers have found another radioisotope that decays much more slowly and turns into krypton 81 in the process. It is rubidium 81,

which has a half life of about five hours. Even this is short enough to make it untransportable by normal means over long distances. But it can be done with Concorde.

The rubidium 81 is made in the cyclotron at Hammersmith, transported by security van to London's Heathrow Airport, put on the 1 pm Concorde, and arrives in Washington at midday local time. It then goes to the Johns Hopkins Medical Unit in Baltimore, where it is used immediately.

Although much publicity is given to oil spills from tanker accidents, less attention is focussed on other possible sources of oil pollution. These do not involve major accidents, but the continuous pumping of oil from offshore rigs.

In Britain the government's Department of Energy controls the concentration of oil in water discharged into the sea. The oil companies install apparatus to separate oil from water, but there are problems. How efficient are the separators and how reliable? Now the Department of Industry's Warren Spring Laboratory has been given the task of assessing the equipment used.

The oil gets into water in three ways. The first, which is of negligible importance, concerns the water used to wash down the rig platform. Only a small amount of water is used and it usually is led to a dump. The other two ways are more important. One involves water displaced from oil storage tanks. The second is concerned with oil mixed up in the water that goes into the well to displace the oil. In this case the hot oil is not viscous and so it forms a fine dispersion in the water.

Two types of oil-water separators are used for these sources of oil contaminated water. The displacement water is passed through a plate separator that causes the oil droplets to rise and coalesce on the underside of plates, so that it flows as a film to a collection point. The second source of contaminated water is treated by introducing bubbles that carry the oil to the surface in a froth, which is skimmed off. The Warren Spring Laboratory will examine how well these separators work. Flow rate, oil concentration, oil drop size, viscosity, temperature and a number of other factors affect their performance.

All these factors will be measured at a number of sites in Britain, as well as on production platforms and at oil exporting terminals on land. Instruments are being installed at industrial locations for field trials, and the equipment will be assessed for accuracy, reliability and practicality for offshore use.

Recommendations will be made to the manufacturers of separators as a result of the

work. Equipment will be improved and suggestions made for new designs. Monitors that can be left unattended and in continuous use will be produced.

A simple obstacle detector for blind people has been developed in the Department of Psychology at Nottingham University by a group sponsored by Britain's Medical Research Council. It is the Nottingham Obstacle Detector or NOD.

It is a small, handheld device and the basis of detecting ultrasonics, which is the emission and reception of waves of frequencies higher than those normally used. The human ear can hear sound only at frequencies about 20,000 cycles per second, which is a very high indeed, so that "sound" say, 100,000 cycles per second would be inaudible. But it can be detected by a transducer that turns air pressure into a varying electrical signal.

NOD emits such ultrasonic signals in a way similar to that of radar. The beam of ultrasound is directed at an object some of it is reflected back to the apparatus. It travels in air at about 330 m/sec, so that if a beam is directed at an object 2m distant the time between emission and reception is about 0.012m. If the object is moving the time difference is about 6ms.

The ingenuity of NOD is the way the time interval made to operate circuit produces an audible note shorter the time interval lower the note heard.

The standard version made to handle a maximum distance of 2.4m and angle at this range causes it to note a diatonic scale heard. At shorter distances sound goes down the scale with the lowest note when the obstacle is within easy reach about 30cm. If there is an obstacle nearer than NOD is silent, and if there is more than one obstacle the front of the instrument note corresponds to the distance.

The 2.4m limit is set by users in towns, since a limit probably would give much confused information. A version with a maximum recordable distance of 10m has been made for use in the country.

Many trials have been made on NOD. It will detect a doorway if scanned at wall. By aiming it up down, a blind person can detect a flight of stairs. Range of notes emitted, can give warning when step has been reached. Users have found it useful locating telephone boxes and parked cars. 20 of the devices have been made, and an earpiece has been added so that the user hears the signal.

Penicillin marks its fiftieth



LONDON — A technician inspects fermentation seed stages for the growth of penicillin at Glaxo's antibiotics plant in north west England. Penicillin, the 'miracle drug' that brought about a change in medical thinking, made many forms of surgery safer and provided a cure for a number of diseases, was discovered 50 years ago by the man who was then Professor Fleming. The story of its discovery might have come from a novelist's pen. During experiments in his laboratory, Fleming left a bacteria-covered plate on the window ledge. A speck of common green mould drifted in through the open window. Where it settled on the plate the bacteria died. Fleming noticed this—and it set him on the road to one of the world's major medical advances. His original discovery was developed by

Professor Florey and Professor Chain of the William Dunn School of Pathology at Oxford and by the early part of World War II sufficient quantities of the drug had been refined to treat patients. During the remainder of the war period 95 per cent of the seriously wounded who were treated with penicillin recovered, prompting Winston Churchill's statement that it was one of the three vital factors contributing to the Allied victory. St. Mary's Hospital, London—Fleming's old hospital—is currently mounting a small exhibition to celebrate the event and far-away Mauritius is to issue a set of commemorative stamps...two reminders of that "microscopic triviality of momentous importance" of 50 years ago.

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Trade will increase with China, Taiwan

WASHINGTON, Jan. 16 (R)—Diplomatic relations with China will open up new areas for trade while allowing room for expansion of existing economic ties with Nationalist Taiwan, America's business leaders have been told.

More than 500 members of the two largest business groups dealing with China and Taiwan were invited to an unusual seminar at the State Department yesterday and heard four cabinet members expound a single theme—trade will continue to grow with both Peking and Taipei.

"We believe U.S. exports to the People's Republic of China may total \$10 billion over the next five years," Commerce Secretary Juanita Kreps said. That figure would be a rapid jump over the current annual level of two-way trade of about \$1 billion.

"There is every reason to expect economic relations between the U.S. and Taiwan will continue to

expand," Treasury Secretary Michael Blumenthal added. Current two-way trade amounted to roughly \$7 billion a year, he noted.

Secretary of State Cyrus Vance told the businessmen that the opening of full relations with China had improved prospects for a peaceful settlement of the 30-year-old territorial dispute between Peking and Taipei.

Mrs. Kreps said the experience of countries such as Canada and Japan was that their trade with Taiwan had soared once they ended formal relations and recognized Peking.

"My optimism about the future of our trade with Taiwan is based on the solid experience of our allies," she said. "For example, the trade between Canada and Taiwan has increased 540 per cent since 1970 when Canada normalised its relations with the People's Republic of China." Since Japan did the same in 1972, its trade with Taiwan had increased 230 per cent.

The message was clearly intended to be music to the businessmen's ears, though there was little to tell if it persuaded them.

During a question-and-answer session, the treasury and commerce secretaries—both of whom will visit China in the next three months—fielded a number of sceptical questions.

Mr. Blumenthal cautioned businessmen that the question of frozen assets in China and the United States was "almost a precondition to all other issues of trade" and would take time to resolve.

U.S. companies have claims for

Bangladesh frees more political prisoners

DACCA, Jan. 16 (R) — Former Bangladesh Foreign Minister Abdus Samad Azad and Awami League General Secretary Zillur Rahman were freed today after serving two years each of five-year terms. The two men were jailed for misusing power during the former regime of Sheikh Mujibur Rahman.

The government also today ordered the immediate release of 267 political prisoners in line with a phased amnesty granted by President Ziaur Rahman. Yesterday, 105 political prisoners were released.

Greek firm challenges Swiss offer to 'save' site of ancient shrine

ATHENS, Jan. 16 (R) — A spokesman for a Greek mining firm yesterday challenged a Swiss conservationist who has offered to buy the site on which the firm plans to set up an aluminium plant near the Greek shrine of Delphi.

The spokesman said: "It is, to say the least, insulting for a foreigner to believe he cares more about an ancient Greek shrine than the Greeks. One is inclined to question his motivations."

Bauxites Parnasse, which owns vast bauxite deposits near the ancient site, and the state-controlled Hellenic Industrial and Mining Investment Company have announced plans to establish a \$300 million plant to produce 600,000 tons of aluminium a year.

The Bauxites Parnasse spokesman said there would be no pollution from the plant.

The spokesman was replying to a statement by Mr. Franz Weber in Montreux, Switzerland, who said his "Save Delphi" movement had sent an offer to Greek Premier Constantine Karamanlis proposing to buy the plant site from the Greek company.

Mr. Weber, who said he planned to raise the funds for the site purchase through three charity galas next May, claimed the factory would have catastrophic consequences for the archaeological site and the olive groves near it.

One spokesman said four bauxite mining companies, including Bauxites Parnasse, were operating in the area near Delphi. It was up to the Greek Government, he said, to decide whether it wanted to stop activities of these companies.

Comecon freeze-up

By Anthony Robinson

"General Winter" was the secret weapon which helped to defeat the Russian campaigns of both Napoleon and Hitler. But as the fiercest cold in decades swept across the Soviet Union and much of Eastern Europe at the start of the New Year, it caused worried economic planners to wonder whether it could also defeat their already tightly stretched targets for economic growth in 1979.

The northern latitude and vast continental land mass makes the Soviet Union in particular exceptionally vulnerable to the vagaries of the climate. The Russians themselves estimate that living in such an inhospitable part of the globe costs them what they call an "arctic tax" equivalent to 300m. tons of fuel. This is the amount of fuel which is required just to heat homes and factories.

In addition they face a snowdrift every winter to clear snowdrifts from roads, railways and airports, and to equip workers on construction sites, oilfields and other outdoor occupations with special fur-lined or electrically heated overalls.

Over the centuries Russians have learned to live with their harsh climate, but in many ways

the problem is getting more acute as the economic centre of gravity of the country moves steadily east and north to the frozen wastes of Siberia. For Siberia is the Soviet Eldorado.

Enormous sedimentary basins hold some of the world's largest resources of oil, gas and coal interspersed with older rocks containing rich deposits of ferrous and non-ferrous minerals, precious stones and metals like gold and platinum, not to speak of large reserves of uranium, a vast hydro-electric power potential and endless expanses of forest.

Since the end of the last war, development of oil and gas and other energy resources has had top priority. It has made the Soviet Union far and away the world's largest producer of both oil and coal and second only to the United States in gas production.

Soviet oil output reached 570m. tons last year and is targeted to rise a further 20.5m. tons in 1979, while coal output is slated at 752m. tons. Some 404bn. cubic metres of gas is expected to flow along a dense pipeline network throughout the Soviet Union and on as far as Italy and France. Gas is one area where production is managing to keep ahead of plan targets, and this year the new

Orenburg pipeline comes on stream. Through it gas will flow over 2,000 miles from fields at the foot of the Ural Mountains to those East European countries like Poland, Hungary, Czechoslovakia and East Germany which helped in construction of this largely Western financed project.

For several years, however, the annual rate of increase in oil and coal production in particular has slowed down. Part of the problem is that as fast as new fields are opened up in the east, production is running down in the older oilfields and coal basins of the more densely populated western part of the country. As production in the older fields runs down, the average cost of production rises.

Putting into operation the coal of Kansk-Achinsk in central Asia or the oil of the Tyumen oil province of western Siberia requires not only massive investment in new mines and wells, but also vast outlays in building roads, railways and pipelines. On top of this is the cost of providing housing and social facilities and the need to pay higher wages and salaries as an inducement to brave the rigours of a long harsh winter and brief, fly-plagued and swampy summer.

The next stage of energy exploration will be even more arduous

and expensive. It will entail exploration and production from the frozen Barents Sea, off Sakhalin Island in the Pacific and eventually up in the off-shore deposits to the far northeast of Siberia. The techniques are already being perfected in the more sheltered inland seas like the Caspian.

But although the Soviet Union has learned to live with the cold, it is clear that the sort of exceptional cold—below minus 40 degrees centigrade in the Moscow area for example—which has afflicted the Soviet Union this winter places an added strain on an already tightly pressed economy.

Fortunately last year's grain harvest gave a bumper 235m. ton yield, and this helped to boost flagging growth last year. But the present cold does not bode well for this year's harvest, nor indeed for the capacity to produce enough oil to cope with higher than expected domestic demand and keep up shipments to Comecon and the West.

Hard currency oil and gas sales

account for around 45 per cent of the Soviet Union's total hard-currency earnings, and any shortfall in this area would be a very serious blow. Western oil experts recall that oil production tended to dip quite sharply in previous cold spells, reflecting production problems caused by the snapping of super-cold steel rigs and equipment, the freezing of motors and problems of communications.

But some of the greatest problems have arisen in the mining and transport of coal—especially in East Germany and Poland, where troops and volunteers have been called out to try and shift coal frozen into rail wagons and supply dumps and to unfreeze the excavator buckets of the huge lignite mining machines.

Large areas of Poland were declared national emergency zones as the already tightly stretched electricity grid was forced to shed part of its land, leading to the sort of widespread power cuts which had already cut

industrial production on several occasions last year.

This in a way highlights the problem. In the normal course of events, delayed trains, a few power cuts and the discomfort of cold would be taken philosophically as a normal hazard of winter. But the trouble is that most of the economies of Eastern Europe are so tightly stretched that the long term effects of the present dislocation could well turn out to be much more serious than usual. The effort to modernise and industrialise their economies and raise living standards has put the energy and transport systems in particular under special strain.

This has been a major factor in forcing economic planners in several Comecon countries to scale down their growth targets for next year. Poland, in particular, which also has the biggest foreign debt to service, has taken the sharpest measures by cutting its growth target in half next year through cuts in investment, controls on imports and appeals for greater productivity and economy in existing facilities.

This sort of appeal for general belt tightening and austerity has been echoed in the New Year speeches of Communist leaders throughout the bloc this year. The last thing they want at this stage is blacked out factories and higher energy bills.

Financial Times
News-Features

Police battle rioters as Indian bank workers continue work-to-rule

NEW DELHI, Jan. 16 (R) — Police opened fire and lobbed teargas grenades to break up rioters who tried to storm a bank in the western Indian city of Ahmedabad in protest against industrial action by bank employees.

The Press Trust of India (PTI) said the 1,000-strong mob laid a ten-hour siege on a government-owned bank, breaking up only after police fired over their heads. Police said mobs hurled stones and other missiles at several other banks in the city injuring three people.

Police said rioters also set fire to furniture and records of a government office and ransacked a police station in Ahmedabad, capital of Gujarat state.

The work-to-rule by bank workers has delayed clearance of several billion rupees worth of cheques and dislocated commercial and business activity across the country.

A strike by traders paralysed business and commerce in Gujarat and southern Karnataka state yesterday. Shops, offices, and petrol stations remained closed in major cities in both states.

Prime Minister Morarji Desai said yesterday that the government would take firm action against the bank employees if they continued their industrial action.

The country's 500,000 bank employees have threatened an indefinite strike from Feb. 2 to press for more generous compensation for the rise in the cost of living.

Rhodesia to 'fight it out' if plans for majority rule fail

CENTENARY, Rhodesia, Jan. 16 (R)—Rhodesia will face a fight to the finish with nationalist guerrillas if the biracial government's plans for majority rule fail through, Prime Minister Ian Smith said yesterday.

Addressing anxious white families in this rich farming area of northern Rhodesia, where the guerrilla war began with a homes-tread attack more than six years ago, Mr. Smith said he had reason to hope that Western powers would recognise the mainly black government planned to follow one-man, one-vote elections next April.

"But if in the end all of this fails then we will have to fight—to fight it out," he told a largely silent group of about 150 men, women and children, several of them with guns at their hips to protect against surprise guerrilla attack.

"But don't let's say we are going to fight it out in any case," he urged. "That's okay for some—but

what about all the children?"

Mr. Smith visited Centenary, about half way between Salisbury and a hostile Mozambique border, as part of a campaign to secure a "yes" vote from 900,000 white voters in a Jan. 30 referendum of the transitional government's black rule constitution.

The scheme aims to set up a national unity administration which will be 28 per cent white and offer the minority a major, continuing say in running the country.

The premier said he believed the British and U.S. Governments would be morally obliged to recognise the new country of Zim-

babwe (Rhodesia), to crippling trade sanctions put pressure on the Patriotic guerrillas to stop fighting black-dominated government taken power.

The Patriotic Front, a Zambia and Mozambique, ing the transitional gov and has pledged to se planned April poll.

Mr. Smith's speech and leave many members of ence, unconvinced that approaching the end of But most told repone believed the Centen munity would vote referendum.

Zambia claim death of Rhodesian commando leader

LUSAKA, Jan. 16 (R)—Zambian troops have killed the leader of a Rhodesian commando unit which crossed into Zambia under the Victoria Falls railway bridge at Livingstone, a government spokesman said yesterday.

The spokesman said Zambian soldiers guarding the northern banks of the Zambezi River, the

frontier between the tries, clashed with the R commandoes two days ago.

The Rhodesian incro only one day before Vice-Premier Lu Xian Hsien-nien) visited the 370 kms. southwest off ing an official trip to Z

Mobutu: France to double its share in international-aid plan for Zaire

PARIS, Jan. 16 (R)—Zaire President Mobutu Sese Seko said yesterday France would more than double its contribution to an international aid scheme for his country's troubled economy.

The Zairean leader told reporters after talks with French President Valery Giscard d'Estaing: "France is now raising its contribution from \$15 million to \$35 million."

President Mobutu last week asked Belgium—the former colonial power—to help speed up a \$90 million aid scheme which involves ten creditor countries.

He said yesterday that leading industrial countries would meet in Washington next March for World Bank-sponsored talks to finalise financial and technical assistance to Zaire.

Saudi Arabia is not one of the ten creditor countries involved in the scheme, but the Arab state last month pledged to give the central African country a year's supply of crude oil.

President Mobutu said he was confident that the ten creditor nations—Italy, West Germany,

Belgium, Britain, the United States, Japan, France, Holland, Canada and Iran—would agree to reschedule Zaire's \$2.5 billion external debt.

The ten are due to meet in Brussels next March to discuss Zaire's crippling debt caused by heavy borrowing at hard commercial rates to finance major development projects.

President Mobutu confirmed Zaire's currency had been devalued by 50 per cent over the past six months and said this was due to re-adjustment measures taken at the recommendation of the International Monetary Fund.

He referred to Zaire's mineral wealth and said the country was "fully confident that we shall recover our rightful place."

reasons of health and age, the party announced yesterday.

Party leader Santiago Carrillo told a news conference that she would not defend her seat in the northwest region of Asturias in general elections on March 1.

Mrs. Ibarruri was 83 last month—and received a heart pacemaker in an operation a year ago.

"La Pasionaria" given this name because of her emotive speeches, returned to Spain from Moscow in 1977 after 38 years in exile following the defeat of the republicans by General Franco in the 1936-39 civil war. She was elected to Congress (lower house) in June 1977 in Spain's first general elections for four decades.

At the conference, Mr. Carrillo said that recent guerrilla violence in Spain could only be defeated by a government with wide popular support and with the reorganisation of the police force.

He repeated a call for a coalition government of the ruling Centre Democratic Union and the Spanish Socialist Workers Party with Communist backing.

Cellist Pablo Casals to rest in Spain at last

SAN JUAN, Puerto Rico, Jan. 16 (R)—The body of cellist Pablo Casals, who refused to return to his native Spain during the Franco dictatorship, will be finally taken back to his homeland, a family member said yesterday.

Mr. Casals, who died in Puerto Rico in 1973 at the age of 96, had said he would not go back to Spain "as long as a regime based on the free will of the people is not re-established."

General Franco died in 1975 and Spaniards voted last month in favour of a democratic constitution. Mr. Casals fled from Spain in 1939, the last year of the civil war.

In disclosing the new burial plans, Achilles Montanez, the father of Mr. Casals' widow, said he expected that the body would be returned from Puerto Rico and buried in the Catalan town of Vendrell, near Barcelona, where the cellist was born.

U.K. pioneers of 'test-tube baby' technique hope to establish centre

GLASGOW, Jan. 16 (R) — The doctors who pioneered a test-tube baby technique which produced its second infant in Britain two days ago said yesterday they hope to establish a centre where couples could have children by their process.

Dr. Robert Edwards, a physiologist at Cambridge University, said the birth of Alastair James Lauchlan Montgomery at Stobhill Hospital here "shows clearly that we are on the right lines."

Mr. Patrick Steptoe and Dr. Edwards have been criticised for not publishing their research data fully, but yesterday Mr. Steptoe

promised details at a London conference later this month.

Dr. Edwards said the two wanted to establish a centre near Cambridge so they would be able to treat many more patients and hoped to be training staff by the end of the year.

Mr. Steptoe said that private, that is fee-paying, patients, would be accepted, as well as patients under Britain's National Health Service.

Meanwhile, an expert committee in India has raised doubts about a Calcutta team of doctors' claim to have delivered the world's second test-tube baby last October. The committee, appointed by the West

Bengal State Government, last month described the doctors' claim as "incredible."

The team of three doctors, headed by Dr. Saroj Bhat-tacharya, had claimed they kept the woman's fertilised ovum in a deep freeze for 53 days before reinserting it in the womb.

The three-month-old girl, named Durga after the Hindu goddess, is reported to be well, but still being kept in isolation.

Dr. Subhash Mukerjee, one of the three doctors, told the Indian Science Conference last week that the experiment did not call for high technology—"only day and night work for years."

The Arctic weather that has hit the Soviet Union and much of Eastern Europe threatens to freeze up the Comecon countries' already tightly stretched economies—particularly in the mining and energy sectors.

account for around 45 per cent of the Soviet Union's total hard-currency earnings, and any shortfall in this area would be a very serious blow. Western oil experts recall that oil production tended to dip quite sharply in previous cold spells, reflecting production problems caused by the snapping of super-cold steel rigs and equipment, the freezing of motors and problems of communications.

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JUMBLE THAT SCRAMBLED WORD
by Henri Arnold and B

Unscramble these four Jumbles, one letter to each square, to form four ordinary words.

LAMBY
EUQUE
TUVIRE
RAHOTT

Print answer here: "OO-OO"

Yesterday's Jumbles: DUCAT GUISE TOWARD BOTH
Answer: You're obliged—to feel it—GRATITUDE

THE Daily Crossword by Madon M

ACROSS 1 Ingenious 2 Actor Dane 12 New Jersey river 14 Fakers 16 Gormandized 17 A revariant "rah" 18 Strategems 19 Wine item 21 Wildebeest 22 Slaughter of baseball 23 Cartoonist Milt 24 A Coward 25 Clamor 26 Daughter of Moliere's "Miser" 27 Aggressive meetings 28 Disturb the calm 30 Collection of assets 31 Rossellini movie 33 TV VIP items 35 Red-ink items 38 City on the Rhone 39 Attire 40 Sneaky syllable 42 — of the earth 43 Use one finger 44 — Pomplius 45 Have a meeting 46 Took a new mite 47 One of the puzzle family 48 Paris and Trous 50 Sour substances 52 Quiet! 54 A few "Star Wars" heroine 55 Parent of "Star Wars" heroine

DOWN 1 Boasted 2 A wife of Aeneas 3 Pretty soon 4 Ultra (beyond the scope) 5 Letters 6 Squaler 7 Lamb and pork 8 Guess wrong 9 Gram or pest 10 Resound 11 John — Galbraith 13 Spite 14 Asp 15 Bell 16 odd 17 Lila 18 stand 19 Well 20 Enr 21 Lili 22 suit 23 Kai 24 Smi 25 Vac 26 27 Trai 28 Kai 29 Kai 30 Kai 31 Kai 32 Kai 33 Kai 34 Kai 35 Kai 36 Kai 37 Kai 38 Kai 39 Kai 40 Kai 41 Kai 42 Kai 43 Kai 44 Kai 45 Kai 46 Kai 47 Kai 48 Kai 49 Kai 50 Kai 51 Kai 52 Kai 53 Kai 54 Kai 55 Kai

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